AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A communication system for use with a packet-based network comprising:

a first node configured to transmit data in data packets across the network; and

a second node configured to receive the data packets from the network and serialize the data;

wherein the second node includes a buffer, said buffer being configurable to adjust to network packet delay variance through analysis of a packet delay variance measurement, as measured over at least one period of time, and

wherein the packet delay variance measurement includes monitoring, for the at least one period of time, a buffer depth of the buffer, the buffer depth being a temporal measurement of a delay that a data packet encounters from when the data packet is received by the buffer to when the data packet is serialized.

Claim 2. (cancelled)

3. (Previously Presented) The communication system of claim 1, wherein the buffer has configurable parameter settings to adjust the buffer in accordance with the packet delay variance analysis.

4. (Previously Presented) The communication system of claim 3, wherein the configurable parameter settings include a first parameter to determine a period of time for data to be accumulated in the buffer before being serialized.

5. (Previously Presented) The communication system of claim 3, wherein the configurable parameter settings include:

a second parameter to set an upper bound for comparison with an average buffer depth, the average buffer depth being determined by averaging instantaneous measurements of the buffer depth over a determined period of time; and

a third parameter to set a lower bound for comparison with the average buffer depth.

6. (Previously Presented) The communication system of claim 5,

wherein, if the average buffer depth is within a first

proximity threshold of the second parameter setting, the second node increases the second parameter setting; and

wherein, if the average buffer depth is outside a second proximity threshold of the second parameter setting, the second node decreases the second parameter setting.

7. (Previously Presented) The communication system of claim 5,

wherein the second node uses a clock signal to serialize the data packets received by the buffer; and

wherein, if the average buffer depth is within a first proximity threshold of the third parameter setting, a clock signal frequency is decreased; and

wherein, if the average buffer depth is outside a second proximity threshold of the third parameter setting, the clock signal frequency is increased.

8. (Previously Presented) The communication system of claim 1,

wherein the first node includes a transmitting clock,

wherein the second node further includes a receiving clock, and

wherein the transmitting clock and the receiving clock are synchronized under nominal operating conditions.

9. (Previously Presented) The communication system of claim 1, wherein the second node further includes a serializer.

10. (Currently Amended) A method of managing a buffer in a node of a packet-based network, wherein said buffer has configurable parameters, including a first parameter, a second parameter, and a third parameter, and said node uses a clock, said method comprising:

(a) setting initial values for the first, second, and third parameters;

(b) measuring buffer depth over a period of time, the buffer depth being a temporal measurement of a delay that a data packet encounters from when the data packet is received by said buffer to when the data packet is serialized;

(c) re-centering said buffer if an underflow event or an overflow event is detected; and

(d) adjusting the first, second, and third parameters and said clock according to the measured buffer depth.

11. (Previously Presented) The method of claim 10, wherein step (b) further includes monitoring said buffer for

the period of time to acquire instantaneous buffer depth measurements.

12. (Previously Presented) The method of claim 10, wherein an occurrence of the underflow event is detected in step (c) by comparing buffer depth with the third parameter.

13. (Previously Presented) The method of claim 12, wherein the occurrence of the underflow event is detected if the buffer depth exceeds the third parameter.

14. (Previously Presented) The method of claim 10, wherein an occurrence of the overflow event is detected in step (c) by comparing buffer depth with the second parameter.

15. (Previously Presented) The method of claim 14, wherein the occurrence of the overflow event is detected if the buffer depth exceeds the second parameter.

16. (Previously Presented) The method of claim 10, wherein re-centering in step (c) comprises discarding all data packets in said buffer.

17. (Previously Presented) The method of claim 10, further comprising, if one of an occurrence of the underflow event and an occurrence of the overflow event is detected in step (c), increasing a corresponding one of an overflow event count and an underflow event count, and comparing the corresponding event count to a threshold to determine if a gross adjustment is to be made to the first parameter.

18. (Previously Presented) The method of claim 10, wherein step (d) further includes:

increasing the second parameter if the measured buffer depth is within a predetermined inner proximity to the second parameter;

decreasing the second parameter if the measured buffer depth is outside a predetermined outer proximity to the second parameter;

decreasing a clock speed if the measured buffer depth is within a predetermined inner proximity to the third parameter; and

increasing the clock speed if the measured buffer depth is outside a predetermined outer proximity to the third parameter.

19. (Previously Presented) The method of claim 10, wherein step (a) further includes:

(i) setting the first, second, and third parameters to pre-processing values;

(ii) receiving data packets at said node for a predetermined amount of time;

(iii) determining if data loss during the predetermined amount of time, with the first, second, and third parameters set at pre-processing values, is within an acceptable limit;

(iv) if the data loss is not within the acceptable limit, then adjusting the first, second, and third parameters accordingly, and repeating steps (ii) and (iii) until data loss is within the acceptable limit; and

(v) setting the adjusted values for the first, second, and third parameters as the pre-processing values.

20. (Currently Amended) A method of managing a buffer in a node of a packet-based network, wherein said buffer is configurable, and said node is adapted to receive synchronous circuit data in data packets, said method comprising:

(a) setting initial values for buffer configuration;

(b) receiving data at said node for a predetermined period of time, and detecting data loss during the predetermined period of time;

(c) if the detected data loss is not acceptable, adjusting the buffer configuration and repeating step (b) until measured data loss is acceptable;

(d) receiving further data at said node; and

(e) periodically measuring buffer depth, and adjusting the buffer configuration based on results of said periodic buffer depth measurements<u>, the buffer depth being a temporal measurement of a delay that the data packet encounters from when the data packet is received by said buffer to when the data packet is serialized</u>.

21. (Previously Presented) The method of claim 20, wherein the buffer configuration is adjusted through configurable parameters, including a first parameter, a second parameter, and a third parameter.

22. (Previously Presented) The method of claim 20, wherein the node uses a clock, and the buffer configuration is adjusted by adjusting a speed of the clock.

23. (Previously Presented) The communication system of claim 1,

wherein, in a first phase of operation, a plurality of buffer parameters are set to predetermined values, and

wherein, in a second phase of operation, in response to the monitoring of the buffer depth of the buffer, one or more of the buffer parameters having been set and a clock frequency of the second node are automatically adjusted.

24. (Previously Presented) The communication system of claim 1, wherein, in a second phase of operation, after a plurality of buffer parameters are set to predetermined values in a first phase of operation, the system compensates for one or more of the following: an overflow event, an underflow event, a potential overflow event, and a potential underflow event.

25. (Previously Presented) The communication system of claim 23, wherein the buffer parameters are user-set.

26. (Previously Presented) The communication system of claim 24, wherein the buffer parameters are user programmable.